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California GARDEN

HORTICULTURE CALENDAR

Nov 3, 10, 17
SAN DIEGO FLORAL EVENT

THURSDAY WORKSHOP
Free Floral Crafts Instruction – Open to the Public
San Diego Floral Association Garden Center, Balboa Park, San Diego
10:00 a.m. to 3:00 p.m. – Info: Colleen Winchell 479-6433

Nov 5, 6

SAN DIEGO TROPICAL FISH 13TH ANNUAL AQUARIUM SHOW
Majorca Room, Casa del Prado, Balboa Park, San Diego
Sat: Noon to 7:00 p.m. Sun: 9:00 a.m. to 4:00 p.m. Free

Nov 7 & 14
SAN DIEGO FLORAL EVENT

FLOWER ARRANGING WITH ADRIENNE
Majorca Room, Casa del Prado, Balboa Park, San Diego
10:00 a.m. to 3:00 p.m. – Info: Mrs. Hoyt 296-2757

Nov 19,20

SAN DIEGO COUNTY ORCHID SOCIETY ANNUAL FALL MINI-SHOW
Majorca Room, Casa del Prado, Balboa Park, San Diego
Sat: Noon to 4:30 p.m. Sun: 10:00 a.m. to 4:30 p.m. Free

Nov 27

EIGHTH ANNUAL SUMI-E PAINTING & IKEBANA ARRANGEMENT SHOW
Majorca Room, Casa del Prado, Balboa Park, San Diego
Sun: 11:00 a.m. to 4:30 p.m. Free

Dec 1, 2, 3, 4

SOUTH COAST BOTANIC GARDENS ANNUAL SHOW
"Holidays in the Garden" & "A Holiday Fairytale"
Music, Entertainment, Demonstrations, Boutiques
26300 Crenshaw Blvd., Palos Verdes Peninsula, Calif.
Thurs: Noon to 4:00 p.m. Fri, Sat, Sun: 10:00 a.m. to 4:00 p.m. Adm. $1.50

Dec 1 (Preview)
Dec 2, 3, 4 (Public Shows)
SAN DIEGO FLORAL EVENT

SAN DIEGO FLORAL ASSOCIATION ANNUAL CHRISTMAS SHOW
Theme: "Christmas Carousel"
Majorca Room, Casa del Prado, Balboa Park, San Diego
Thurs: Preview for Floral members and guests
Fri. & Sat: 11:00 a.m. to 9:00 p.m. Sun: 11:00 a.m. to 4:00 p.m. Free

Dec 2, 3

BALBOA PARK'S SIXTH ANNUAL "CHRISTMAS ON THE PRADO"
Sponsored by the Cultural Institutions of Balboa Park (San Diego)
Fri. & Sat: 5:00 to 9:00 p.m. Free – or reduced admissions
Fri: High School Chorale Competitions (Organ Pavilion)
Sat: Band Entertainment (Organ Pavilion)

Dec 4

"CHRISTMAS IN FLOWERLAND" AND BAZAAR
Quail Botanical Gardens, Ecke Family Bldg., 230 Quail Gardens Dr., Encinitas, Calif.
Sun: 10:00 a.m. to 4:00 p.m. Free

Dec 6

LA JOLLA GARDEN CLUB HOLIDAY TEA
La Jolla Woman's Club, 715 Silverado St., La Jolla, Calif.
Tues: 1:00 p.m. Donation: $2.50

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AN EXPEDITION TO COLLECT LETTUCE

THOMAS W. WHITAKER & R. PROVVIDENTI

THIS IS THE SECOND PART OF A SERIES OF THREE ARTICLES. PART III WILL APPEAR IN THE JAN–FEB 1984 ISSUE.

MAP OF TURKEY; THE DOTTED LINE INDICATES THE ROUTE FOLLOWED BY THE COLLECTING EXPEDITION.

PART II
• TURKEY

We arrived in Ankara, Turkey, on June 7 and spent the next three days going through the more or less meaningless diplomatic and political routines that are a necessary part of the collector's burden before he can actually take to the field for serious work. Ankara, the capitol, is a new, modern city with broad avenues, an abundance of trees, fine parks, numerous mosques, etc.

After three days in Ankara, we moved on to the port city of Izmir (formerly Smyrna), which was to be headquarters during the remainder of our sojourn in Turkey. The Regional Agricultural Institute of the Turkish Government is located at Menemen, a suburb of Izmir. The Director, Dr. Kafiz Temiz, has established an important Seed Bank at this location. He is very interested in preserving the native crop materials of Turkey before they are destroyed, inadvertently, by the relentless activities of man. Within the borders of the country there is a wealth of indigenous materials of such crops as cereals, several vegetables, and the narcotics tobacco and opium poppy. It is well worth the effort and expense to preserve these materials for the use of future generations of plant breeders and those interested in plant protection. Our future food supply may depend upon the collection and preservation of this indispensible resource.

After two short reconnaissance trips in the vicinity of Izmir, we were confronted with some observations that influenced the focus of our work for the remainder of the trip.

It was apparent that we had arrived in Turkey 3-4 weeks before mature seed could be harvested from plants of wild *Lactuca* species. This forced us to revise our strategy by pointing out to our collaborators what and where to collect most advantageously when the seed matured. We can report that this plan has worked well. We have received about 100 individual collections from our cooperators in Turkey and Greece to supplement those we made.

After the two reconnaissance trips in the neighborhood of Izmir, it became abundantly clear that the species of *Lactuca* for which we were searching were clearly dependent upon the activities of man for their survival. In other words, they are weeds. Consequently, wild lettuce species occur along roadsides, particularly where ground has been cleared for construction; among other favorite habitats are vacant lots and waste places in cities; banks of drainage and irrigation canals; along the fence rows of backyard vegetable plots; as a weed in fields of wheat and other cereals; in crevices between walls and road pavement; in crevices of stone walls, etc.

In addition to wild species of *Lactuca*, we made about 87 collections of so-called "land races" of cultivated lettuce. The cultivation of lettuce in Greece and Turkey is not a large operation as we know it in this country. On the contrary, lettuce is mostly cultivated by backyard gardeners in small plots. They share the excess production with their neighbors, or they take their produce to the local market for disposal. These gardeners traditionally save their own seed. Usually about 6 plants, but not more than two dozen, are allowed to bolt, and the seed harvested. Thus these "land races" remain highly localized and effectively isolated. Selection is automatic toward

those individuals that survive drought, mature plant diseases, and insect pests. Theoretically, some resistant genes of value for plant breeders should emerge from this material.

We collected along the Aegean and Mediterranean coasts of Turkey from Izmir to Antakya (formerly Antioch) close to the Turkish-Syrian border, a distance of about sixteen hundred miles. The Aegean Coast of Turkey is marvelously scenic. The high, snow-covered Tarus Mountains rise abruptly out of the blue waters of the Tourmaline Coast. With their pine-covered slopes, the Tarus Mountains are a ruggedly impressive sight. Where the mountains recede from the coast more gradually, there is a narrow strip of land that supports a lush agriculture of banana plantations, citrus orchards, olives, tobacco, and such vegetable crops as tomatoes, eggplant, watermelons, beans and cucumbers.

After two days collecting in the vicinity of Antakya, we commenced the return journey to Izmir via the inland route. This route takes one across the stark, arid, treeless Anatolian Plain. It passes through the religious city of Konya with its numerous mosques, and the smaller cities of Nigde, Afron and Usak.

The western perimeter of the Anatolian Plain supports a productive agriculture, mostly orchards of deciduous fruits such as cherries, apricots, and peaches, with some vegetables. The most interesting crop in this region is the opium poppy. It is grown in small plots, and at the time of our visit was in full flower. The individual plots had the appearance of being covered with a white blanket. Some plots consisted of varieties with both white and purple flowers—a beautiful sight. It is difficult to realize that the misuse of the product of these handsome plants has brought unlimited misery to millions of people throughout the ages.

T.W. WHITAKER HOLDING SEED STALK OF AN UNIDENTIFIED SPECIES OF LETTUCE (*LACTUCA* SP.)—TURKEY.

PURE STAND OF *LACTUCA SERRIOLA* (WILD LETTUCE) GROWING ALONG ROADSIDE RECENTLY CLEARED FOR CONSTRUCTION—TURKEY.

Our collecting efforts in Turkey would have been much less fruitful had we not had the assistance of Mrs. Tulin Bas, a talented plant breeder, and Amed Achmed, driver. These people acted as guides and interpreters.

Upon returning from collecting in the south of Turkey we spent two days at Izmir obtaining seed samples of cultivated lettuce from the Seed Bank at the Regional Agricultural Institute (Menemen), and arranging for the shipment of our collections to the Seed Inspection Service, U.S. Department of Agriculture, Washington, D.C.

Dr. Whitaker is Plant Geneticist, U.S. Department of Agriculture and Research Associate in Biology, University of California, San Diego Campus.
Dr. Provvidenti is the Senior Plant Pathologist, New York Agricultural Research Station, Geneva.

In Search of a California Christmas Tree

DONALD BETTS

Monterey pines are now so popular for Christmas trees, the editorial staff thought you would enjoy this reprint from *California Garden*, December, 1962.

MANKIND, GOING BACK to the Stone Age and earlier, has always had a special feeling for trees. This feeling springs, I believe, from two sources, man's sense of beauty and his need for security.

As time went on and mankind progressed from the primitive, trees became useful to him in many ways other than shelter, as fuel for cooking and to keep him warm, as material to build his home, in many cases as food itself, in the form of fruits and nuts, and sometimes even as clothing. Food, clothing, shelter. Is it any wonder then that man came to regard the tree as his best friend? Even the sun, which he was inclined to turn to, often let him down. But trees were always there. Furthermore, he could look at them and touch them and get to know them intimately, which he never could do with the sun. So he grew to rely on them: they gave him something to cling to in a wild and meaningless world.

It was therefore a simple and natural development for man to come to worship trees, to make a tree the residing place of the spirit of his god. For the tree was the center of his world, the safe quiet place in the storm, the remembrance of his past, the servant of his present, the hope of his future. It was also a thing of beauty which carried his eyes upward toward the sky and the stars and those vast spaces of heaven which caught his imagination and raised him so far above the other creatures of his world.

Bearing all this in mind, we can see how wise and natural it was for the early fathers of the Christian church to blend the story of Jesus, the saviour of mankind, with the ancient legends surrounding mankind's faith in trees, so that in due course there were born of this union that beautiful being, the Christmas tree.

Down through the years almost everything has been used at one time or another as a Christmas tree. Palms and cacti, metal, plastic, tinfoil, snow and ice, driftwood and sea shells, and who knows what, have been pressed into incongruous service by lonely souls in distant corners of the earth wishing to celebrate Christmas. But undoubtedly the first choice for this purpose has always settled on one or another of those trees belonging to the group known as conifers, such as the fir, the spruce, the hemlock, and the pine. Of these, spruce and fir certainly lead in the matter of symmetry and so are often held up as the ideal. But the pine, because of its picturesqueness, makes a more interesting Christmas tree. Furthermore, its usefulness to mankind can hardly be overestimated.

Many species of pine make magnificent timber trees. The resin of some furnishes turpentine, tar and pitch. Pine wool is made from the needles of others. Essential oils from the young shoots is distilled to be used medicinally. And the seeds of the nut pines are used for food and flavors.

Considering its extreme usefulness, its strikingly picturesque qualities, its hardihood and self-reliance, there is much to be said in favor of placing this genus of conifer first on the list of Christmas trees ahead of its more beautiful but more conventional cousins. Of course there are pines and pines, in fact, over six hundred species and varieties, ranging from the arctic to the equator. In almost every cooler or higher part of the world there is at least one species well suited to the particular area. The question then naturally arises, in our coastal areas of southern California, which is the most suitable pine to serve as our Christmas tree? In my opinion, the choice of the species is the Monterey pine, *Pinus radiata*.

This beautiful tree, native in San Mateo and Monterey counties and other more northern regions in California, has been a great reforestation tree around the San Francisco Bay area. But it does perfectly well in our region, too. It makes a very handsome tree, anywhere from 40 to 100 feet tall, with strikingly dark green foliage and stout spreading branches, compact but often irregular and always interesting in form. It has a deep taproot, takes well to poor soils of a sandy or gravelly nature, is self-reliant and not at all fussy about food. In fact, like most pines, it gets along better without heavy feeding. And another point in its favor for San Diego: it is one of the best pines to plant against the sea.

I live in Encinitas, California, about a quarter of a mile from the ocean, down an undedicated road which ends abruptly above a wide lagoon. Our humpy dirt road is lined with Monterey pines which were planted there thirty to forty years ago. The road is wide and the pines are massive, spreading things with deep-fissured dark brown bark covering the thick trunks and heavy limbs. When the sun shines, the soft carpet of brown needles, spread everywhere over the ground, glows with an animal warmth. When there is mist or rain, the wide fret-work of branches overhead is hung with veils of raindrops. Many birds make their homes high up in these dark old trees, singing and chattering from morning till night and scattering their gray feathers over the brown blanket of needles below. Our children love to climb and snuggle into the branches; to gather the fat cones after they have fallen and paint them with bright colors and hang them around the house.

In heavy weather these trees stand between us and the blast from the sea. In the heat of summer they spread coolness from their branches. At all times they fill the air with a wholesome fragrance.

They whisper and sigh and sing in the breeze and the wind, mysterious words whose meaning we can sense but cannot understand. And on cold December nights, the moon shines softly through the dark branches and dapples the ground with shimmering silver. Looking upward we see the clusters of glistening needles standing stark against the sky. Distant stars seem to twinkle at the ends of the branches. The big trees are starred with light. They stand still and hushed, listening, as if awaiting at this Christmas season some good thing, a sign, a voice, a star out of the East, a fresh vision, a new hope for the world.

They are indeed our Christmas trees.

Editor's note: Monterey pines have become one of the most popular trees planted on Christmas tree farms in southern California and thousands of these beauties are decorated each year for our Christmas. However, The Saratoga Horticultural Foundation, Saratoga, California issues a word of warning. Monterey pines now have pests of beetles, moths, scale, aphids, tip and shot moths, and mites. For that reason they advise California gardeners not to overplant these intriguing natives in their home gardens. Even though they are beautiful small trees for the first few years, they become huge trees when grown to maturity.

MANDARIN GOLD

THE 'OWARI' SATSUMA, a tangerine with a sweet delicate flavor makes a fine addition to a garden that lies in the citrus belt. Thriving both along the coast and inland, it is rated as one of the best for this area. The tree tends to be small, growing to a height of 8 or 9 feet and approximately 9 feet in diameter. The rich green leaves grow thick and droppage is at a minimum.

In late autumn, through the holiday season, and in the first months of the year it bears a tremendous load of bright orange fruit, much of it in clusters along the green foliage. The fruit varies from small to large, and sometimes very large—all in the same crop. This tangerine peels easily, the sections separate readily, and to find a seed in one is rare indeed. The fruit can be picked over a period of two to three months and there is usually more than a family can eat.

One grower's experience: "I have a satsuma mandarin that is nine years old. It was planted near the coast and given frequent waterings as it grew. The first Christmas two dozen pieces of fruit were on the tree ranging in size from small to one that measured 11 inches in circumference. Since then (with the exception of one year when the yield was low) it has borne bumper crops, enough for the family to eat; boxes, bowls, and bags of them to be given as gifts, and of course bags of them for the freezer. These tangerines can be frozen whole in their skins, a refreshing treat to be peeled and eaten frozen on a warm day."

With its bountiful fruit during the holiday season when tangerines are expensive, the satsuma mandarin is truly "gold" in your garden. A.M.

CULTURE

Citrus can be planted any time of the year except during cold weather. All citrus needs enough water to keep the soil moist, but care must be taken not to overwater, especially trees planted in clay or poorly draining soil. Newly planted trees need frequent waterings. In soil with proper drainage, they need to be watered once a week and as often as twice a week when the weather is hot and dry. Since citrus roots grow near the surface as well as deeper, a mulch helps to maintain moisture. New roots grow out beyond the spread of the tree, so it is important that moisture and fertilizer are available.

Three applications of a high nitrogen fertilizer, one in late winter, another in June, and the last one by the first of September have proven effective. Follow instructions on the package label for the amount to apply according to the size of the tree. □

Know Your Onions

ROSALIE GARCIA

Drawing by PAT MALEY

ONIONS HAVE BEEN cultivated from time immemorial, but no one knows exactly where they originated. It is known they were grown and eaten in Asia Minor and the Mediterranean countries before there were written records, since they are found in ancient drawings.

They grew wild along the banks of streams and still do in subtropical and temperate zones all over the world. Wild ones are of the very small bunching-growth type and are hotter than many peppers and "smellier" than garlic, as we learned when children. We roamed the woods in early spring with cold biscuits and a piece of hard cheese looking for the first wild onions to eat with them. I would always eat anything and I liked those wild hot onions, but some of my school friends couldn't eat them because they were either too hot, or they made them sick.

When I came home from one of these foraging parties, dirty and smelling to high heaven, my grandmother would say, "Rosalie you will never grow up to be a lady if you keep eating those smelly onions." According to her code of etiquette no lady ever ate onions, and she never did. These wild onions were the bane of my mother too, when the cows munched them in early spring and made the milk taste so terrible it was unfit to drink, but the pigs didn't seem to mind.

Allium cepa, the onion we eat, comes to us in various sizes, colors, and degrees of sweetness and hotness. Although it has never made the social register as a "company" dish, it is often on the holiday dinner menu in the form of small oval boiling onions. I remember my mother serving them at Christmas in a bowl of cream, real thick and yellow, which in these days is nothing short of sinful. This cream was skimmed off the top of the milk in a wide crock and topped off with a dusting of black pepper or nutmeg. That was a real festive dish.

Some people like onions to be hot and "stinky," others prefer the juicy, mild, sweet flavors, mostly of European origin. Those who do not care for the overpowering onion or garlic often like the delicate flavors of their slim green blades to anoint the salad bowl.

The common old yellow onion was developed from the American wild onion. It is our own—tough, strong, hot, durable—and appeals most to those who "like 'em hot." It is in our markets all year, for it is a good keeper, is disease resistant, and will grow just about anywhere. The seeds and sets are usually available in any nursery and are good ones to start on for the beginning gardener.

White ones may be either sweet or hot, but are mostly firm, hot, and strong in flavor. They keep well and are used mostly for cooking and drying.

The European varieties are less frequently grown in home gardens, for they do not keep so well and sets are less available. We get sweet onions in our markets only two or three months in late summer and

early fall. They are usually large, red, and flat. An elongated red or Italian onion is strong, mildly hot, firm, and keeps better. It comes a little later.

One of the novelty varieties is the Egyptian, which does not grow bulbs under ground, but makes small bulblets from the bloom cluster on top of tall hollow spikes. They are strong, can be red or yellow, and are often used for pickles and novelty items. The plants are often grown in flower beds as ornamentals for the grotesque lines they make. Hobbyists like to use them in flower arrangements.

Onions grown for drying should be left in the ground until the tops fall over and the stems become dry down into the bulb. After pulling they should lay in the sun or be hung in a dry, airy place for a week or two before storing. I have often laid them on the roof of the gardening shed or, if the nights were damp, hung them in bunches from the rafters.

The white and yellow onions are most commonly grown for drying. The large sweet juicy red ones do not dry well.

I am sure that the tough and durable onion is destined to an unlimited future despite its odor, often fiery taste, and social stigma. But I am afraid I will never become a lady, according to my grandmother's standards. I still eat those smelly onions almost every day, even for breakfast when those sweet juicy red ones are in season.

CULTURE

Onions are a cool-weather plant, which should be planted in early fall or late summer so they will mature before hot weather sets in. They are fairly slow growing and need time to mature. Before planting, the soil should be worked to a fine loose texture with fertilizer, such as well rotted manure, good potting soil, or humus mixed in. Onions will grow without all this, but they will do much better if they have plenty of nourishment and continuous moisture on the surface, for their roots are shallow.

In southern California when we are likely to have our warmest days in September and early October, plant in a semi-shaded bed and transplant to rows when it is cooler. Sets can be planted anytime all winter long. If started from seeds, the tiny plants will come up very thick and must be handled so as not to damage the roots in transfer, but onions are tough and will grow from straggly starts. Seeds planted in late summer will produce a supply for transplanting for months.

Sets are stronger and can be planted where one wants them to grow. Since they have a stronger start, they mature faster, and one can be enjoying green onions in less than a month. A half-barrel filled with good soil will furnish green onions for many months if a set is put in as soon as one is pulled out. Green onions can be sort of hot, if the hot varities are planted.

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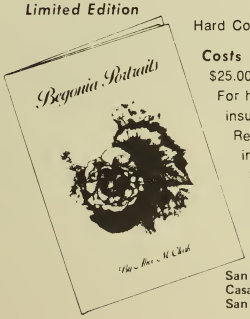

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Dormant spraying is important because that is when most pests, depending on the organism, are susceptible to control. In fact, in some cases, such as peach leaf curl, there is no chemical control during the growing season and dormancy is the only season to effect control.

• DORMANT CARE PRODUCTS

The most common and the safest dormant application is the oil spray. Oil affects a wide variety of pests due to the nature of its kill. Technically oils are classified as a physical contact insecticide. Rather than poisoning them, the oil plugs the breathing openings (spiracles) of the insects, larva, or eggs that it touches, causing instant suffocation. However, it does not affect any creatures that later crawl over the treated area.

Dormant oil sprays are made of a petroleum oil that is refined and thinned to certain specifications for specific applications. Petroleum oils available for plant protection once had a variety of names (dormant, summer, unclassified, medium, light medium, etc.) that signified various physical properties and their degree of refinement. Today, virtually all such products available to the homeowner are identical and can be used for either dormant or growing season applications. Oils applied during the growing season are normally diluted with water to one-half the concentration of dormant season's sprays.

Heavy weight oils are more effective in killing scale, but are also more injurious to actively growing plants (leaf drop, dead twigs and branches, fruit drop, reduction of bloom and fruit set, and poorer quality fruit). The oil dissolves the waxy coating on plant leaves and buds causing water loss and damage, burn, or even complete desiccation of the foliage. Thus the safest time to spray is when deciduous plants have lost their leaves. A compromise of a medium weight oil minimizes these effects.

There are oil sprays registered for evergreens, usually of a lighter weight, that do not cause foliage damage.

For dormant spray use, use miscible (mixable) oil at 1 to 15 or 20 dilution on deciduous plants. One to 25 or 30 on evergreens. Summer oils, such as Volck, are used at 1 to 50 dilution.

Companies that market oil sprays may combine their products with insecticides or fungicides (particularly lime sulfur) and give them a variety of names such as 4-season spray, scale and spider mite control, sulf-r-oil, etc. The purchaser should examine carefully the list of ingredients on the label to decide whether the product serves specific needs.

Lime sulfur (calcium polysulfide) is an insecticidal/fungicidal compound of sulfur and calcium hydroxide (lime) of a deep red color, commonly used as a liquid, but also used dry, to control some mites and fungus diseases, especially peach-leaf curl and powdery mildews. It is rated as one of the "safe chemicals" by the EPA with no time limitation between application and harvest. Usually it is restricted to a particular stage of pest development or time of season (dormancy) in order to avoid plant injury. Some species of plants tolerate application only in cool weather, others not at all. Many chemical companies manufacture a dormant disease/pest control that is 25 to 28 percent lime sulfur.

An oil spray with lime sulfur used in October or November will considerably reduce pear rust mite population for the following season. Using lime sulfur in a 1 to 9 dilution as a dormant spray controls pine-needle, juniper, and rose scales.

Fixed copper sprays are also very effective fungicides and relatively safe to plants when used before active growth begins. Fixed (inorganic) copper mixtures are reduced to a powdered form that is more usable to plants, releasing very low levels of copper so as not to harm the plant. Copper normally is toxic to plants unless used in discreet dosages or relatively insoluble forms.

Fixed copper mixtures are commonly applied to fruit trees during the blooming period to control brown rot on almonds and leaf curl and coryneum

blight on peaches; powdery mildews, rust, and cane and leaf spot on a wide variety of ornamentals; and Fairy Ring blight on dichondra lawns. Fixed copper is also used on fire blight on apples and pears, but with mixed results since fire blight is a bacteria rather than a fungus.

Commercial orchardists frequently use a wettable powdered copper mixture called Miller's Microcap that is very effective on peach leaf curl. The powder forms a suspension in water and is never really dissolved. These suspended particles tend to clog sprayers making it difficult for homeowners to apply. The mixture is not readily available in San Diego County.

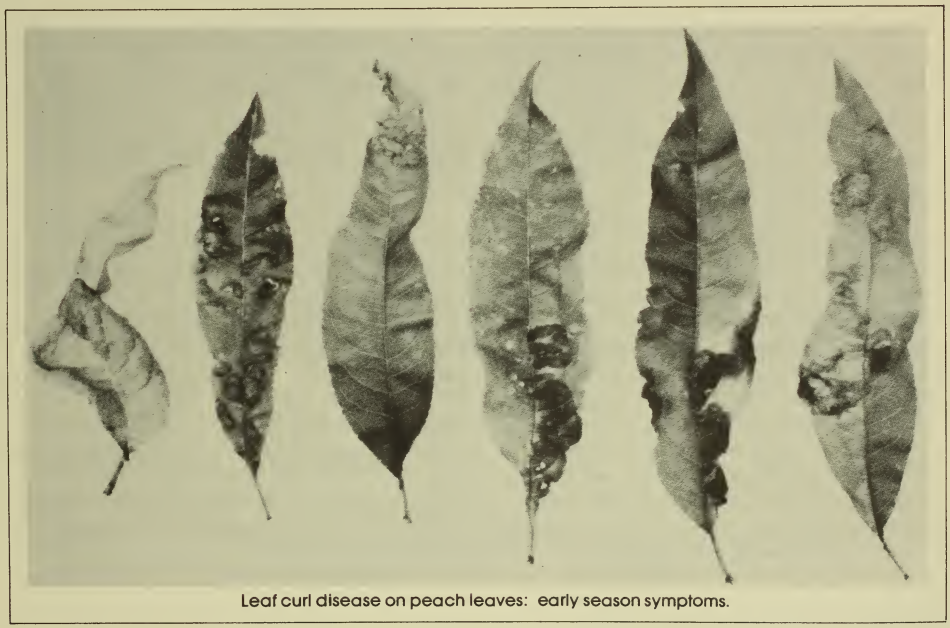
Copper oleate is another popular dormant agent that is easy to apply and is readily available, however, it has not proved to be effective on peach leaf curl, said San Diego County Farm Advisor, Vincent Lazaneo. Bordeaux mix, a gelatinous mixture of copper sulfate and lime, is an effective fungicide, however, it is too conspicuous for wide use on ornamentals. Bordoil is another copper fungicide mixed with an oil that is not as effective as a Bordeaux mix but is often mistaken for it.

Despite the fact that copper is an essential trace element to plants, some danger of accumulation in soils results from frequent or prolonged use. Certain citrus growers in Florida have experienced serious problems of copper toxicity after using fixed copper for disease control.

• PESTS

Dormant sprays are most effective on certain mites, aphids, scales, and larva that attack fruit trees, evergreens, roses, and some subtropical ornamentals. Scales are sucking insects closely related to mealybugs. Only the female causes plant injury. After a brief crawling period, an armored scale sticks her beak into a plant cell and remains in that spot the rest of her life, covering herself with a hard or waxy shell. Soft scales have no separate shell and may move about very sluggishly. Standard control is a dormant oil spray aimed at the crawlers and applied before plants start growth in spring. Oils mixed with malathion, diazinon, or carbaryl are even more effective.

Spider mites are microscopic sucking insects whose feeding activity on leaves causes a pale speckling which may increase until the foliage turns brown or yellow or drops prematurely. Usually only webbing



Leaf curl disease on peach leaves: early season symptoms.

Courtesy of the Division of Agricultural Sciences, University of California.

is visible covering the mite colonies, sometimes covering leaves and entire limbs. Some mites do not produce webbing. Since low humidity and dust encourage mites, periodic overhead irrigation will make plants less susceptible to damage. Dormant oil spraying mixed with the miticide Kelthane is a very effective mite control.

Aphids, or plant lice, are small, soft-bodied sucking insects of many colors—green, pink, lavender, gray, black, red, yellow, brown—clustered on succulent new shoots, on buds, or inside curled leaves. Buds and flowers may be deformed. A black sooty mold may grow in the honeydew secreted by aphids on foliage. Dormant oil sprays will kill aphid colonies on branches or overwintering eggs. Malathion is a very effective chemical control.

Fruittree leaf roller is a serious pest throughout California and occurs in a large number of ornamentals and fruit and nut trees. Eggs hatch into larvae that feed on tender new leaves giving them a ragged appearance. Fruits are also attacked leaving characteristically deep bronze-colored scars with roughened net-like surfaces. Young fruits may fail prematurely. If a dormant oil spray is applied to egg masses during January or February, before buds open, it is an effective control and other sprays for leaf rollers are not needed.

Diseases usually controlled by dormant spraying are leaf curl on peaches and coryneumblight. As previously noted, there is no chemical control during the growing season for peach leaf curl so dormant spraying is extremely important. This is also true for the coryneum blight (shot-hole) fungus because it is most susceptible in dormancy after leaves drop.

• PLANTS

Those plants most successfully treated during dormancy for insects include many grown by the home orchardist—peaches, pears, apples, almonds, apricots, cherries, kiwi, grapes, nectarines, plums, persimmons, and some berries. These are usually sprayed in November or December after losing their leaves and before buds set. Pests and fungus diseases are so prevalent on fruit trees that dormant oil spraying should be a yearly routine even if pests are not readily apparent.

Citrus can be sprayed in late fall and early winter for scale and mites, to some degree, but only if you see signs of them. Some oils are registered specifically for citrus use. The lightweight Volck oil may also be used on citrus if diluted, but never during a dry hot windy condition. Blood albumin is widely used as a spreader for oil sprays on citrus.

Oils are also useful on ornamentals such as euonymus, holly, Japanese flowering quince, camellia, juniper, red cedar, lilac, oleander, pines, and especially roses. Finer-leaved ornamentals require an oil spray mixed at half strength for less foliage damage. Ornamentals shouldn't be treated unless evidence of a specific pest is noticeable. There is no point in stressing the plant unnecessarily.

Winter cleanup is an important part of dormant care. Deciduous plants, particularly roses, should be stripped of all their leaves and debris raked up from under plants and destroyed to prevent pests from overwintering in those areas. After cleanup, dormant sprays should be applied, making sure to cover every inch of the trunk, limbs, canes, and small twigs for the most effective control. To lessen plant stress, always water plants well a day before spraying and never spray when the temperature is below 45° F. or above 85° F.

Renewed interest in dormant spraying, particularly oils, is due to current concern over environmental contamination with toxic compounds, pest resistance to chemicals, and belief that oils are more selective than non-oil miticides and scalicides in use. Also, recent improvements in effectiveness and reduced plant reaction, and improvements in application equipment make oils the most attractive method of dormant plant care.

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ERNEST B. CHEW is the horticulturist who planned and planted most of the San Diego Zoo. Ernie has contacts with arboretums and botanical gardens around the world and his trips include visits to many places not open to the general public. Ernie is presently acting as garden editor of the San Diego Home and Garden Magazine. He gives garden tips on KOGO radio and operates a thriving landscape business.

PEGGY WINTER is the newsletter editor for the California Rare Fruit Growers. She has led trips for this organization for many years and now that she is also working for this office, she plans every detail of each adventure. Her enthusiasm and her voluminous correspondence are two of her greatest assets. She does not just have contacts–Peggy makes friends, and these friends open up their homes and hearts to her traveling companions.

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An Old Fashioned Garden

Photos and text by
BILL GUNTHER

EARLY IN THIS CENTURY, when San Diego had about one-twentieth of its present population, the neighborhood immediately to the west of Balboa Park was THE neighborhood in which to live–if you could afford it. Mainly, that neighborhood was inhabited by bankers, who in those days were the richest people around: that is why the area was called Banker's Hill.

Captain Ackerman was not a banker, but when he retired from the Navy he purchased a large piece of land on Banker's Hill for his home and garden. He selected a location for his future home on Curlew Street where is would have an unobstructed view of San Diego harbor and all the ships arriving and departing. He also purchased the naturally contoured vale adjacent to the building site where he planned to build a private garden in which he could enjoy the plants, the birds, and the balmy weather of San Diego, which he evaluated as being the most ideal climate on earth.

Realizing the magnitude of the project and the importance of finding a forward-looking architect to draft the detailed coordinated plans for his home and garden, he considered many available architects before making his final decision. The one he selected was Hazel Waterman–a woman–in an era when the popular view was that the only proper place for a woman was in the home. In retrospect, he could not have made a better choice.

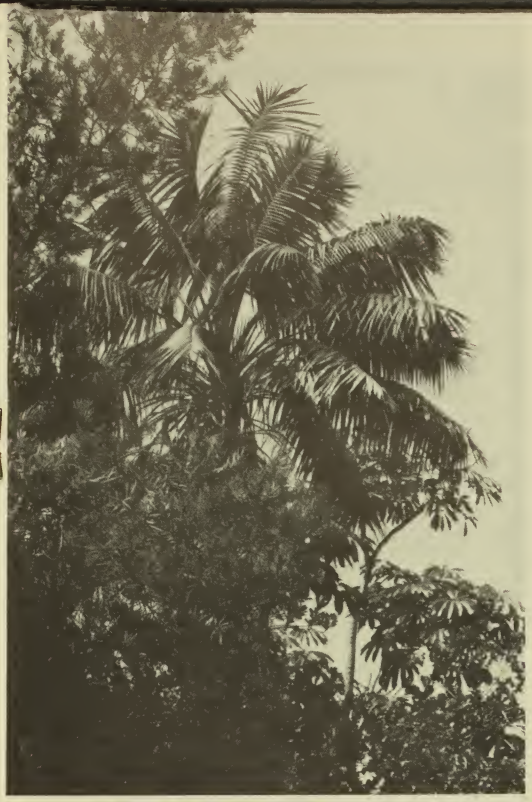
There is convincing evidence that for the garden phase of the project Hazel Waterman arranged for another woman, the famed Kate Sessions, to provide consulting assistance and the plant material. Together, these two women created a garden which even now, 71 years later, remains a pleasure to behold.

Occasionally this garden is open to the public for special events such as the recent historic tour which was organized by the Save Our Heritage Organisation (SOHO). For those who may have an opportunity to visit this garden or those who enjoy reading about gardens here are some of the outstanding features.

One's first impression is that of a magnificent white home of classic style, dramatically framed by beautiful massive trees. Judging from their size, these trees in all likelihood are the very same trees which were brought from Kate Session's nursery as saplings. As was her habit, Kate Sessions herself was probably there to personally oversee the placement and the planting of these trees.

After seeing the front of the home, one should proceed around the corner to the side street to admire the attractive palm growing on the north side of the house amidst other trees. This is the paradise palm, *Howea forsterana*, which surely came from Kate Session's nursery in 1912, and quite likely it is among the oldest and tallest specimens of that species to be found in southern California. But where and how did Kate Sessions get that palm in the first place? Nobody knows. The only place on earth where this palm grows in the wild is a tiny island near Australia. It is understandable that explorers or fishermen during the

IN ANY VERY OLD GARDEN, IT IS FUN TO LOOK AT UNLABELED PLANTS, TO TRY TO IDENTIFY THEM, AND THEN TRY TO DECIDE WHETHER THEY WERE AMONG THE ORIGINAL GARDEN PLANTINGS OR WHETHER THEY WERE ADDED LATER. THIS ATTRACTIVE UNLABELED PLANT IS *BEGONIA CORALLINA*; IT PROBABLY IS FROM THE ORIGINAL PLANTINGS BECAUSE IT IS A SPECIES WHICH WAS BROUGHT HERE FROM BRAZIL OVER 100 YEARS AGO.



THE CENTRAL FEATURE OF THIS PHOTO IS ONE OF THE OLDEST AND TALLEST SPECIMENS OF THE PALM *HOWEA FORSTERANA* IN THE SAN DIEGO AREA. IT GRACES THE NORTH SIDE OF THE ACKERMAN HOME.

early years of this century would have admired that beautiful palm, and would have collected seeds from it. But those seeds, like most palm seeds, are short-lived to the degree that it is doubtful if any means of transportation then available could get them to Kate Session's nursery in San Diego before they lost all viability. Nonetheless, somehow, she did have that palm, and she has been credited by the late Chauncy Jerabeck, longtime San Diego City Horticulturist, as being the person who first popularized the paradise palm in southern California.

The main part of the garden is in the vale behind the home, out of view from the street. Some of the features of the vale are a long arcade constructed from big wooden beams, a rose garden, a maze of garden walkways, huge old trees, and a covered outdoor entertainment center (originally a large aviary).

The original plans for the garden have long been lost, but evidently the arcade, the rose garden, and the trees are part of the original design. In the rose garden are some roses which might have been in the original planting, but there are also recently introduced hybrids.

But despite the minor changes, the big garden behind the big home remains essentially what Captain Ackerman wanted it to be—a quiet place of retreat, out of sight from the road, a garden to be enjoyed while simultaneously enjoying the most ideal climate on earth.

Bill Gunther, a palm hobbyist, grows many varieties of palms and is co-editor of the *California Newsletter of the Palm Society*. He is a trustee of the Quail Botanical Gardens and has a keen interest in all facets of horticulture.

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NUTMEG
THE HOLIDAY SPICE

ALLETHE MACDONALD

NUTMEG, TO MANY people, is the most important spice in seasoning the festive foods of our holiday season.

Perhaps you would be interested to know that nutmeg and mace, another important holiday spice, come from the same fruit. Both are produced from the tropical nutmeg tree, *Myristica fragans* (Myristiceae)—the only example of two spices occurring in the same fruit naturally.

Long poles with baskets attached are used to harvest the pale orange-yellow, pear-shaped fruit, borne on female trees. When mature it splits into two halves to reveal a seed covered by a vivid red, thin netlike membrane (aril), which fades to a light orange when dried. Mace comes from this dried substance. It is mace that makes doughnuts taste like doughnuts.

The seeds consists of a thin hard shell enclosing a wrinkled kernel—the nutmeg. A gentle heat is applied to the seeds over a long period of time until they are thoroughly dry. Then the hard outer shell is cracked; the nutmeg is removed and ready to be sorted. The small and inferior ones are processed for the "oil of mace," used in condiments and some medicines.

Myristica fragans is a dioecious evergreen tree 30 to 60 feet tall with dark gray bark, willowy green branches, and leathery yellowish olive green glossy leaves 2 to 5 inches long, resembling rhododendrons. Both the male and female trees have small pale yellow bell-shaped flowers. It takes about 25 years for a seedling tree to reach maximum production, but then it produces for 60 years. Nutmeg trees are grown widely in the tropics thriving in a hot moist climate, in well drained soil. Commercially they are grown chiefly in Indonesia.

For many years the Portuguese and then the Dutch were able to maintain a monopoly on nutmeg and mace. Eventually they lost control, seeds were spirited out of the islands and it is said that birds spread the seeds to other islands with their droppings. Apparently Marco Polo was unaware of the nutmeg. It was one of the last spices to reach Europe and then it was so expensive only royalty and the very wealthy could afford the exotic spice. They had silversmiths make fancy little graters that they carried with them to banquets. A whole nutmeg was passed so each guest could grate his own while savoring the aroma. At one time in England an ounce of mace cost the price of three sheep. Since mace brought a much higher price than nutmeg during the Dutch control, one high official in Amsterdam, who did not know his nutmegs, sent out an order to the islands to plant more mace and less nutmeg.

NUTMEG, FROM MATTIOLI'S *COMMENTAIRES*, LYONS, FRANCE, 1579. THE NUTMEG SEEDS SHOWN IN THIS DRAWING HAVE BEEN REMOVED FROM THE 2-INCH-DIAMETER FRUIT, BUT THE NET-LIKE MEMBRANE USED FOR MACE IS STILL ATTACHED.

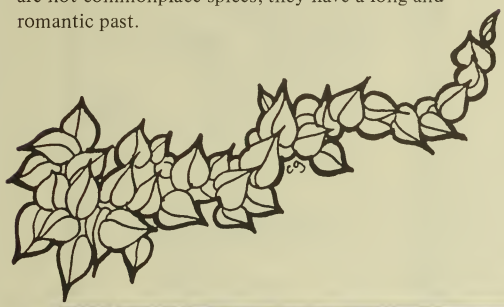
There are many stories and folklore associated with these spices. In ancient times nutmeg was thought

to be shaped like the brain so it was used as a medicine for brain disorders, eye troubles, and headaches.

Connecticut is called the Nutmeg State. Sailors who saw nutmegs in the West Indies started carving wooden replicas and selling them to unsuspecting housewives in New England.

The name nutmeg is given to other plants and fruits. One is the African nutmeg, Jamaica, *Monodora myristica*, has aromatic seeds and are sometimes used as nutmeg. A conifer, *Torreya californica*, often called the stinking nutmeg, grows in scattered California mountains regions below 4500 feet. The plumlike fruit is pale green with purplish markings.

The next time you sprinkle freshly grated nutmeg on a cup of eggnog or dunk a doughnut remember these are not commonplace spices; they have a long and romantic past.



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BLOC HAZARD BRIC

Three Southern California Wild Onions

Photo #1
Allium praecox, Wild Onion, near Jamacha. Small flowers are white or pinkish, with violet anthers and dark midveins. Seeds are black, bouncy and plentiful, in fat papery capsules. Commonest wild onion of southern California, and earliest to flower. Found also in Baja California. February, March, and April.

Photo #2
Allium campanulatum, Bell-Flowered Onion, Cuyamaca Peak. Flowers of light pearly pink with fat red anthers. A foothill and mountain onion, occurring above 2000 feet, from San Diego north to Oregon, also western Nevada. May, June, and July.

Photo #3
Allium peninsulare, Red-Flowered Onion, Dulzura. A showy Allium, this one is bright rose-purple. Found below 3000 feet but not close to the coast. Many localities in San Diego County, including Ramona, Lakeside, Jamacha, Tecate Mt.; also from central California to Baja California. March through May.

Photos by *BETTY MACINTOSH*

UNDERSTANDING SOIL ANALYSIS

E. ROBERT BICHOWSKY

SOIL ANALYSIS IS a diagnostic tool that is useful for the correction and maintenance of soil productivity. Factors affecting plant growth may be chemical, physical, biological, or cultural. Chemical soil analysis is most useful for appraising saline and alkali conditions, determining the fertility status for nitrogen, phosphorus, potassium, iron, manganese, and calcium, and estimating the amounts of chemical soil amendments such as gypsum, needed to correct soil conditions. Physical analysis of soils for such things as sand, silt, and clay content is often useful for providing information concerning irrigation practices and recommending organic amendments.

The pH (soil reaction) is a measure of how acid or how alkaline (basic) the soil is. It is measured on a scale of 1 to 14. Most plants do best in a range from 6.5 to 7.5. The availability of minerals and nutrients to plants is often dependent on the pH.

The E.C. (electrical conductivity) is a measure of the amount of soluble salts present in the soil. An E.C. reading of 2.0 to 3.0 millimhos per centimeter is approaching a range where some salt sensitive plants such as dichondra and avocado will be damaged. A reading of 3.0 requires that the salts be washed out of the soil or leached out.

The major nutrients are nitrogen, phosphorus, and potassium. A complete fertilizer often is recommended to supplement the nutrient levels. The minor nutrients include calcium, iron, and manganese. These nutrients are needed only in small quantities and are usually present in sufficient amounts.

When gathering soil for analysis, obtain samples from a depth of 1 to 4 inches from three different areas to make a composite sample. One pint of soil is a sufficient amount for analysis. Soil should be dry. The sample you take should be representative of the problem for which you are testing. Sample the areas differing in growth, appearance of the soil, slope, drainage, or other factors, separately. Place sample in a clean and sturdy container. With the samples include the past history and present management practices and details of the problem being examined.

There are many factors affecting a plant's growth. These are only a few of them. This analysis cannot detect such things as fungus diseases, nematodes, and insects. The cultural factors of plant growth such as drainage, exposure, temperature, and irrigation practices are as important to a plant's development as any of the above. Thus, if a problem exists, this analysis may not find it. It can only eliminate some possibilities.

Holiday Greetings

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50 YEARS AGO . . .

Carol Greentree

"A Famous Christmas Tree", December, 1932, by K. O. Sessions

When the yacht Vilehi reached New Zealand about Christmastime, 1931, Mrs. Horton was charmed with the beauty of a native tree in full bloom, a glorious red. Unable to secure plants from the local nursery for shipment to her Chula Vista home, she wrote to me to import at least a dozen plants . . . an order for seed to Vilmorin & Company of Paris was promptly filled. Letters of inquiry to Golden Gate Park brought two plants. An article in our CALIFORNIA GARDEN by Miss Elizabeth Fairley on New Zealand plants in April, 1931, tells us that this famous Christmas tree, the glory of New Zealand, is *Metrosideros tomentosa** . . . further investigation has given the following facts: the flower is like our well-known bottle brush, but its color is a more brilliant red. It makes a tree 30 to 50 feet high but will bloom when only a shrub in size. It withstands the coast winds and ocean's spray and will grow in poor soil.

* The correct botanical name now is: *Metrosideros excelsus*.

"Dombeya", December, 1933, by Bertha M. Thomas

We have a Dombeya in our yard and it is now a gorgeous mass of those indescribable pink balls. Nothing else resembles them. There are always twins, and occasionally one twin blooms ahead of the other. The leaves are large and do their best to protect their children, for the least little frost turns them brown. Even a little moisture will do the same. This year I cheated nature by stripping four-fifths of the leaves, and the flowers can now be seen. They are short-lived and I pick off the old brown ones every two or three days. The flowers are in good bloom, only about six weeks, but nothing on earth can excell their beauty or daintiness . . . Nearly every passerby stops and gazes with admiration.

"Gardening in This Southland", November, 1933, by Peter D. Barnhart

Climatic conditions in this land of visions and dreams are so congenial to members of the kingdom of plants that the lover of plant life never ceases to wonder what may be expected next, in all his experimenting with things NEW . . .

Some things NEW: *Chironia floribunda** was recently introduced by Hugh Evans of Santa Monica. The flowers are rose colored, borne in great profusion on plants a foot high. When they become plentiful and cheap enough, they will make excellent borders for large beds. It is one of the Gentianaceae; a native of South Africa, from whence come a host of things that fit into the southern California scheme.

. . . Bailey gives little space to *Thunbergia gibsonii*. It is an evergreen vine of wondrous beauty about ten months of the year. The orange flowers last for days after cutting. The stems are short, but if some of the vine is cut with the flowers, they add grace to any bouquet. A native of East Africa, the marvel is how luxuriant it is in this dry clime. It is a shy seeder and must be propagated from cuttings.

Another plant of wondrous beauty is *Bouvardia humboldtii*** the only species which seems happy in our Southland, yet is seldom met here. Of purest white, and delightfully fragrant at night, no collection of plants should be without it.

* The correct botanical name now is: *Chironia palustris*, subsp. *transvaalensis*.

** The correct botanical name now is: *Bouvardia longiflora* 'Albatross.'

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Book Reviews

Review by SHARON SIEGAN

New Zealand Medicinal Plants by S.G. Brooker, R.C. Cambie and R.C. Cooper. Published in the USA by The Windmill Press, Exeter, N.H., 1981. $36.95. Available from I.S.B.S., Inc., P.O. Box 1632, Beaverton, OR 97075.

Two noted chemists and a botanist, the latter serving for more than two decades at the Auckland Institute and Museum, collaborated to compile a very readable, handsome volume on New Zealand's medicinal plants.

Historically, Maoris (the native New Zealanders) had only modest interest in herbal cures. Their general good health and belief in the exorcism of evil spirits limited flora trials primarily to wound treatment. With the arrival of the Europeans, the situation changed, and both groups became much more experimental about their local plants.

Inclusion in this book is based on reportage of a plant's medicinal use, which admittedly the authors cannot always authenticate. Nor do they claim promise of any efficacy.

What they do offer are anecdotes on usage, methodology of application, along with those of related plants, and most importantly, the chemistry, particularly that which may contribute (or account for) reputed benefits. Plants are listed alphabetically by species, with family identification, common and Maori names noted. Since many of the plants listed are familiar to gardeners of all countries, this book will have far greater interest than its title might suggest. The color photos and drawings illustrating the medicinal plants aid in identification.

The Camellia Story by Tom Durrant. Published in the USA by Windmill Press, Exeter, N.H., 1982. $47.95. Available from I.S.B.S. Inc., P.O. Box 1632, Beaverton, OR 97075.

Tom Durrant founded the New Zealand Camellia Society in 1957, and spent the subsequent years in further collecting, cultivating, and researching the genus. This book is a result of his love affair with camellias.

Camellia history begins with *C. sinensis*, the tea plant, and Durrant traces its ups and downs in international popularity, correlating it with the socio-economic scene. *C. japonica* epitomized Victorian society, but suffered neglect thereafter with the decline of formal gardens and greenhouses, only to surface again, along with the lesser known reticulatas, when home owners became serious gardeners. Durrant also projects development of a whole new color/shape array based on the introduction of *C. chrysantha*, the yellow camellia.

The author cautions about nomenclature confusion, caused primarily because oriental introductions received different names in each of their new host countries, the situation being further compounded by the many amateur and natural crosses of closely related species. Anyone interested in hybridizing will find the detailed discussion of camellia genetic structure of particular value.

The Camellia Story is a coffee table book, beautifully illustrated with some 200 full color photographs (primarily of New Zealand species), guaranteed to tempt all camellia enthusiasts.

The Rhododendron Species–Volume I - Lepidotes, by H.H. Davidian. Published in the USA by Timber Press (P.O. Box 1631, Beaverton, OR 97075), in cooperation with the Rhodendron Species Foundation, 1982. $59.95.

This epic work is primarily a reference, confined to lepidotes, or scaly barked rhododendron species. Azaleas, better suited to the San Diego climate, are elepidotes, and will be considered in a later volume.

An update of an older classic, *The Species of Rhodendron*, this book is remarkable for its exhaustive and scholarly coverage. Following a history of the genus, there is a key to the lists of series and subseries which the publisher promises will allow identification "with reasonable accuracy [of] every species in cultivation." Ninety-five magnificent color photographs, along with detailed taxonomic treatment, aid in classification.

After forty years spent studying rhododendrons at the Royal Botanic Garden in Edinburgh, the author has earned his international reputation as an outstanding authority on the genus. The book is a culmination of his dedication to this subject.

Editor's note: We regret the demise of **Russell P. MacFall**, a retired newspaper editor, who has written our book review column for the past five years.

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BEGONIAS MARGARET LEE

Now is the time–

- to watch the weather; if dry, keep planting material moist but not wet.
- to protect potted plants if rains arrive; a heavy run-off can wash out soil and expose the roots.
- to control insect problems–spray for mealybugs and other pests.
- to spray also for mildew control–read labels and follow complete instructions of manufacturers.
- to feed lightly.
- to clean plants of all dead leaves and wood.
- to give plants a top dressing of your favorite mulch.
- to let tuberous begonias go dormant.

BONSAI DR. HERBERT MARKOWITZ

Now is the time–

- to watch watering schedule. Cut down on watering if a rather normal season. Watch dormant trees, they need more water; keep moist but not wet.
- to move trees to shade if a hot spell occurs. Avoid a second growth period during this time; it will weaken the trees.
- to remove old leaves, fruit, or seed pods from deciduous trees.
- to refrain from fertilizing or transplanting.
- to protect trees from any sudden changes of temperatures.

BROMELIADS LINDA PRELL

Now is the time–

- to let bromeliads rest.
- to withhold fertilizer so the plants may harden off for winter.
- to stop watering if cold wet weather.
- to leave offshoots on the mother plant–they fare better in winter this way.
- to bait for snails and slugs that thrive during rainy season.
- to protect plants from exposure to the elements: frost, hail, and strong winds can do irreparable damage.

CACTI & SUCCULENTS VERNA PASEK

Now is the time–

- to give a low nitrogen feeding.
- to watch watering–many plants are resting at this time; too much water will cause root damage.
- to make cuttings of succulents. Use the lovely red ones in a living wreath for Christmas.
- to make plans for protection of tender cacti and succulents in case of heavy rains or cooler weather.
- to check for insects and such pests as scale and mealybugs.

CAMELLIAS SAN DIEGO CAMELLIA SOCIETY

Now is the time–

- to feed a 2-10-10 fertilizer for better and larger blooms.
- to maintain a regular watering program–do not allow plants to dry out. Mist only in late afternoons on dry hot days to keep from burning the leaves.
- to continue disbudding.
- to pick up all old blooms to prevent petal blight.
- to maintain a regular spray program, especially

against looper worms.
to select new plants while in bloom.
to renew mulch, where necessary, using either bark or pine needles.

DAHLIAS ABE JANZEN

Now is the time–
to permit plants to go dormant by withholding water and fertilizer.
to cut stalks when plants have died back and are brown.
to leave tubers in the ground to harden off unless rains are heavy and drainage poor, then lift the clumps and let dry for a few hours before dividing and storing.
to divide clumps. Cut the clumps apart with a sharp knife so each tuber has one eye (growth bud). Be sure to put sulphur on each cut. Place tubers in vermiculite, sand, or other medium and store out of the weather.

EPIPHYLLUMS FRANK GRANATOWSKI

Now is the time–
to withhold fertilizers, especially those containing nitrogen (the first number in the formula, i.e. 4-10-8), thus allowing plant to become semi-dormant.
to protect plants from exposure to the elements. Frost, hail, and strong wintry winds can cause irreparable damage. Overexposure to harsh winter sunlight can be as detrimental as exposure to hot summer sun.
to transplant into larger containers those plants that are not expected to bloom next spring.
to check seed pod (the apple). Ripened apples may be picked and the seeds planted. However, do not rush this procedure. Germination of the seeds will be vastly improved when the apple has become fully matured.
to take advantage of the winter rains. Even prolonged rains will have no harmful effect on the plants if planted in good porous soil; they tend to leach the soil of accumulated salts. Be sure to collect rain water for future use. Store in covered opaque containers to prevent mosquito larvae and the buildup of algea.
to maintain good grooming of plants. Prune out dead, unsightly and non-productive branches to conserve the plant's energy. Keep containers free of debris, and bait for slugs and snails. A few granules of Slugetta placed at the base of the container have proved to be effective and leaves little or no unsightly residue.

FERNS RAY SODOMKA

Now is the time–
to continue to be alert for insects–slugs and snails are active.
to water if it does not rain. Check plants not reached by rains.
to fertilize with a more dilute mixture.
to plant spore.
to protect plants at night in frost areas. Cover with newspapers, old sheets, or place in garage.
to take off pups from platyceriums and mount them.

FUCHSIAS WILLIAM SELBY

Now is the time–
to allow plants to rest after a hard blooming season.
to keep plants cleaned up–remove all debris, old leaves, etc. Check under plants which is an ideal spot for insects, fungi, and mold to winter over.
to protect plants from frost and cold winds in areas where this is required.
to watch watering. To water enough to keep from drying out, if not enough rain.
to prune plants heavily if in a frost-free area.
to feed all plants that have been cut back with a balanced fertilizer.

GERANIUMS CAROL ROLLER

Now is the time–
to water less often. Each watering should moisten the entire soil ball and excess water should escape through the drainage holes.
to continue feeding with a balanced fertilizer dissolved in water, using it at half the recommended strength every 4th or 5th watering or as often as needed to keep the plants growing well.
to prune plants which have not been cut back. Leave some green leaves on each stem being cut back. Prune again in 4 to 6 weeks to bring lanky plants into shape.
to make cuttings from the prunings. Shelter the cuttings from extreme weather conditions.
to tip pinch plants which were pruned early in

the fall.
to continue pest and disease control, using products according to the manufacturer's directions.
to give temporary shelter from freezing if temperatures fall below 30° F.
to rotate plants regularly for symmetrical shape.

IRISES SAN DIEGO–IMPERIAL COUNTIES IRIS SOCIETY

Now is the time–
to make final plantings of bearded types, spurias, Louisianas, and Siberians.
to plant bulbs of Dutch, English, and Spanish for spring blooms.
to water spurias regularly until well established.
to clean beds of dead leaves and weeds; aphids winter over in neglected areas.
to spray for aphids or give a light feeding of a systemic fertilizer which gets rid of all sucking plant pests.
to feed tall-bearded a balanced organic-type food. Give Japanese and Louisianas some acid-type (camellia food is convenient).
to move and replant Pacific Coast natives in late December when the little white roots are showing. Water well until they are established.

ORCHIDS CHARLIE FOUQUETTE

Now is the time–
to clean off greenhouse glass–allow more light during the days with shorter daylight hours.
to repot plants that have finished blooming.
to check mix breakdown and renew if needed.
to check for snails and scatter proper bait.
to feed low nitrogen (10-30-20) fertilizer to cymbidiums.
to continue light feeding on cyps and phals. Keep them moist.
to feed 18-18-18 to cattleyas showing continued growth through root-tips and leaves.
to stake new spikes as they appear.
to spray or mist the variegata oncidiums in the morning so they will be dry by nightfall.

ROSES BRIAN DONN

Now is the time–
to withhold water to help plants become somewhat dormant.
to give a dormant spraying in December even before pruning.
to dormant spray several times from late December to late January. May even start some pruning in late December.
to visit garden centers to purchase and plant bare-root specimens. The season may begin in late December.

VEGETABLES GEORGE JAMES

Now is the time–
to set out in the garden started plants of lettuce, celery, broccoli, cabbage, cauliflower, Brussels sprout, and Swiss chard.
to remember seeds of any kind will germinate slowly and may decay because of low temperatures and wet soil.
to prepare soil so that after the holidays you can plant roots of asparagus, artichoke, rhubarb, and plants of cane berries, strawberries, grapes, and deciduous fruit trees.

GREEN THUMB SUZY GARDEN

Now is the time–
to plant blubs for spring color: daffodils, ranunculus, anemones, scilla, Dutch iris, lilies. Tulips and hyacinths may be planted after Thanksgiving. Be sure to refrigerate 4 to 6 weeks before planting.
to set out winter-spring annuals for continued garden beauty.
to cut mums about 6 to 8 inches from the ground after blooming. Feed to encourage new growth for next year's additional plants.
to apply dormant sprays in December to control pests and disease next year.
to feed birds-of-paradise. Cut out dead growth from clump to improve appearance.
to prepare and enrich your soil, preparing now for the bare-root planting of roses, trees, etc. in January.
to prune and shape holly and pyracanthas using the branches for holiday decorations.

Happy Holidays

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